

What is claimed is:

Claim 1. A flameproof thermoplastic resin composition substantially free of phenolic resin, red phosphorous and silicone resin comprising (A) about 40-95 parts by weight of a rubber modified styrene-containing graft copolymer resin, (B) about 5 - 60 parts by weight of polyphenylene ether resin; (C) about 5 - 30 parts by weight of aromatic phosphoric acid ester per 100 part by weight of (A) and (B), wherein the rubber modified styrene-containing resin (A) comprises a styrene-containing graft copolymer resin comprising

- a) about 10-60 % by weight rubber and
- b) about 90-40% by weight of a styrene-containing copolymer grafted onto the rubber wherein the styrene-containing copolymer contains about 15-40% by weight of acrylonitrile

and wherein the styrene-containing copolymer chains in rubber modified styrene-containing resin (A) comprise

- (i) about 5-20% by weight having an acrylonitrile fractionation content of 0-9 % by weight
- (ii) about 10-40% by weight having an acrylonitrile fractionation content of 9-20 % by weight and
- (iii) about 40-80% by weight having an acrylonitrile fractionation content of not less than 20% by weight acrylonitrile

and the sum of (i), (ii), and (iii) is 100 % by weight of the total weight of styrene-containing copolymer chains in rubber modified styrene-containing resin (A).

Claim 2. Flameproof thermoplastic resin composition according to claim 1 wherein the rubber modified styrene-containing resin (A) comprises

- (A1) at least about 20% by weight of a styrene-containing graft copolymer resin comprising
  - a) about 10-60 % by weight rubber and



wherein R<sub>1</sub>, R<sub>2</sub> and R<sub>3</sub> independently of one another are hydrogen or C<sub>1</sub>-C<sub>4</sub> alkyl; X is a dialcohol derivative selected from the group consisting of resorcinol, diphenol, hydroquinol, bisphenol-A and bisphenol-S; and n is 0 - 4.

5 Claim 8. Flameproof thermoplastic resin composition according to claim 7 wherein the aromatic phosphoric acid ester (C) is a mixture of not less than two aromatic phosphoric acid ester compounds having a different n value.

10 Claim 9. Flameproof thermoplastic resin composition according to claim 7 wherein the aromatic phosphoric acid ester is selected from the group consisting of triphenyl phosphate, tricresyl phosphate, trixylenyl phosphate, tri(2,6-dimethyl phenyl) phosphate, tri(2,4,6-trimethyl phenyl) phosphate, tri(2,4-ditertiary butyl phenyl) phosphate, tri(2,6-ditertiary butyl phenyl) phosphate, resorcinol bis (diphenyl) phosphate, resorcinol bis(2,6-dimethyl phenyl) phosphate, resorcinol bis(2,4-ditertiary butyl phenyl) phosphate, hydroquinone (2,6-dimethyl phenyl) phosphate, and hydroquinone (2,4-ditertiary butyl phenyl) phosphate.

15 Claim 10. Flameproof thermoplastic resin composition according to claim 1 wherein the resin composition contains less than 3% by weight of polycarbonate based on the total weight of the composition.

20 Claim 11. A molding product prepared by the resin composition of claim 2.

25 Claim 12. A flameproof thermoplastic resin composition substantially free of phenolic resin, red phosphorous and silicone resin comprising (A) about 40 - 95 parts by weight of a rubber modified styrene-containing graft copolymer resin, (B) about 5 - 60 parts by weight of polyphenylene ether resin; (C) about 5 - 30 parts by weight of aromatic phosphoric acid ester per 100 part by weight of (A) and (B), wherein the rubber modified styrene-containing resin (A) comprises

(A1) about 20-100% by weight of a styrene-containing graft copolymer resin comprising

a) about 10-60 % by weight rubber and

b) about 90-40% by weight of a styrene-containing copolymer grafted onto the rubber wherein the styrene-containing copolymer contains about 15-40% by weight of acrylonitrile and

(A2) about 0-80% by weight of a styrene-containing copolymer containing about 15-40% by weight of acrylonitrile

wherein the styrene-containing copolymer chains in rubber modified styrene-containing resin (A) comprise

(i) about 5-20% by weight having an acrylonitrile fractionation content of 0-9 % by weight

(ii) about 10-40% by weight having an acrylonitrile fractionation content of 9-20 % by weight and

(iii) about 40-80% by weight having an acrylonitrile fractionation content of not less than 20% by weight acrylonitrile

and the sum of (i), (ii), and (iii) is 100 % by weight of the total weight of styrene-containing copolymer chains in rubber modified styrene-containing resin (A).

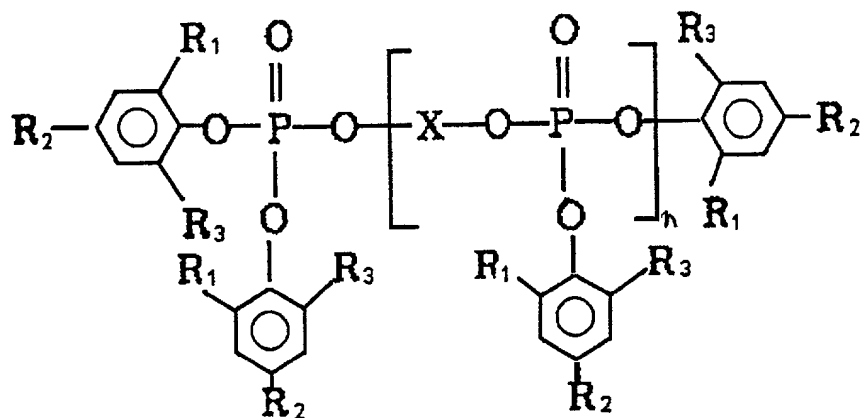
Claim 13. Flameproof thermoplastic resin composition according to claim 12 wherein the rubber modified styrene-containing resin (A) comprises about 30 - 90% by weight of a styrene-containing graft copolymer resin (A1).

Claim 14. Flameproof thermoplastic resin composition according to claim 12 wherein the styrene-containing graft copolymer resin (A1) comprises about 17 - 30% by weight of acrylonitrile.

Claim 15. Flameproof thermoplastic resin composition according to claim 12 wherein the (iii) is about 40 - 80% by weight having an acrylonitrile fractionation content of 20 - 50 % by weight acrylonitrile.

Claim 16. Flameproof thermoplastic resin composition according to claim 12 wherein the polyphenylene ether resin (B) is poly(2,6-dimethyl-1,4-phenylene) ether.

Claim 17. Flameproof thermoplastic resin composition according to claim 12 wherein the aromatic phosphoric acid ester has the following formula:



wherein R<sub>1</sub>, R<sub>2</sub> and R<sub>3</sub> independently of one another are hydrogen or C<sub>1</sub>-C<sub>4</sub> alkyl; X is a dialcohol derivative selected from the group consisting of resorcinol, diphenol, hydroquinol, bisphenol-A and bisphenol-S; and n is 0 - 4.

Claim 18. Flameproof thermoplastic resin composition according to claim 17 wherein the aromatic phosphoric acid ester (C) is a mixture of not less than two aromatic phosphoric acid ester compounds having a different n value.

Claim 19. Flameproof thermoplastic resin composition according to claim 17 wherein the aromatic phosphoric acid ester is selected from the group consisting of triphenyl phosphate, tricresyl phosphate, trixylenyl phosphate, tri(2,6-dimethyl phenyl) phosphate, tri(2,4,6-trimethyl phenyl) phosphate, tri(2,4-ditertiary butyl phenyl) phosphate, tri(2,6-ditertiary butyl phenyl) phosphate, resorcinol bis (diphenyl) phosphate, resorcinol bis(2,6-dimethyl phenyl) phosphate, resorcinol bis(2,4-ditertiary butyl phenyl) phosphate, hydroquinone (2,6-dimethyl phenyl) phosphate, and hydroquinone (2,4-ditertiary butyl phenyl) phosphate.

Claim 20. Flameproof thermoplastic resin composition according to claim 12 wherein the resin composition contains less than 3% by weight of polycarbonate based on the total weight of the composition.

5 Claim 21. A molding product prepared by the resin composition of claim 12.

10 Claim 22. A flameproof thermoplastic resin composition substantially free of phenolic resin, red phosphorous and silicone resin comprising (A) about 40 - 95 parts by weight of a rubber modified styrene-containing graft copolymer resin, (B) about 5 - 60 parts by weight of polyphenylene ether resin; (C) about 5 - 30 parts by weight of aromatic phosphoric acid ester per 100 part by weight of (A) and (B), wherein the rubber modified styrene-containing resin (A) comprises

(A1) a styrene-containing graft copolymer resin comprising

- 15 a) about 10-60 % by weight rubber and  
b) about 90-40% by weight of a styrene-containing copolymer grafted onto the rubber wherein the styrene-containing copolymer contains about 15-40% by weight of acrylonitrile and

(A2) a styrene-containing copolymer containing about 15-40% by weight of acrylonitrile

20 wherein rubber modified resin (A) is prepared by combining graft copolymer (A1) and a sufficient amount of copolymer (A2) so that the the styrene-containing copolymer chains in rubber modified styrene-containing resin (A) comprise (i) about 5-20% by weight having an acrylonitrile fractionation content of 0-9 % by weight , (ii) about 10-40% by weight having an acrylonitrile fractionation content of 9-20 % by weight, and (iii) about 40-80% by weight having an acrylonitrile fractionation content of not less than 20% by weight acrylonitrile and the sum of  
25 (i), (ii), and (iii) is 100 % by weight of the total weight of styrene-containing copolymer chains in rubber modified styrene-containing resin (A).

30 Claim 23. A flameproof thermoplastic resin composition according to claim 22 wherein wherein the rubber modified styrene-containing resin (A) comprises at least about 20% (A1).

Claim 24. A flameproof thermoplastic resin composition according to claim 22 wherein the graft copolymer (A1) is prepared prior to the addition of copolymer (A2) and copolymer (A2) is combined with graft copolymer (A1) as a separate component.

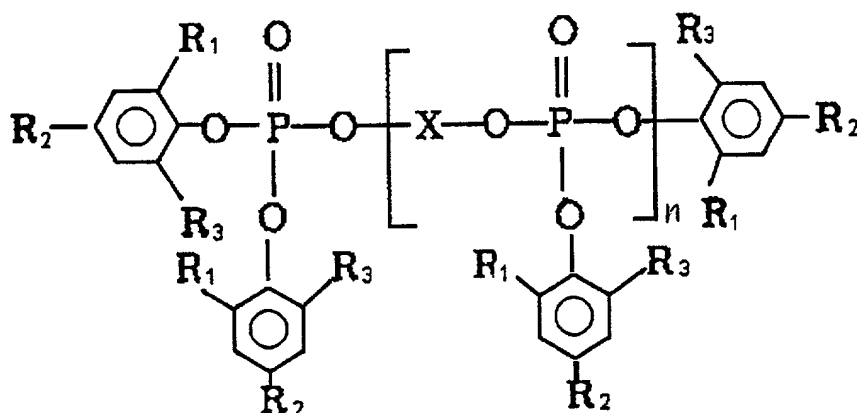
Claim 25. Flameproof thermoplastic resin composition according to claim 22 wherein the rubber modified styrene-containing resin (A) comprises about 30 - 90% by weight of a styrene-containing graft copolymer resin (A1).

Claim 26. Flameproof thermoplastic resin composition according to claim 22 wherein the styrene-containing graft copolymer resin (A1) comprises about 17 - 30% by weight of acrylonitrile.

Claim 27. Flameproof thermoplastic resin composition according to claim 22 wherein the (iii) is about 40 - 80% by weight having an acrylonitrile fractionation content of 20 - 50 % by weight acrylonitrile.

Claim 28. Flameproof thermoplastic resin composition according to claim 22 wherein the polyphenylene ether resin (B) is poly(2,6-dimethyl-1,4-phenylene) ether.

Claim 29. Flameproof thermoplastic resin composition according to claim 22 wherein the aromatic phosphoric acid ester has the following formula:



wherein  $R_1$ ,  $R_2$  and  $R_3$  independently of one another are hydrogen or  $C_1$ - $C_4$  alkyl; X is a dialcohol derivative selected from the group consisting of resorcinol, diphenol, hydroquinol, bisphenol-A and bisphenol-S; and n is 0 - 4.

5 Claim 30. Flameproof thermoplastic resin composition according to claim 29 wherein the aromatic phosphoric acid ester (C) is a mixture of not less than two aromatic phosphoric acid ester compounds having a different n value.

10 Claim 31. Flameproof thermoplastic resin composition according to claim 29 wherein the aromatic phosphoric acid ester is selected from the group consisting of triphenyl phosphate, tricresyl phosphate, trixylenyl phosphate, tri(2,6-dimethyl phenyl) phosphate, tri(2,4,6-trimethyl phenyl) phosphate, tri(2,4-ditertiary butyl phenyl) phosphate, tri(2,6-ditertiary butyl phenyl) phosphate, resorcinol bis (diphenyl) phosphate, resorcinol bis(2,6-dimethyl phenyl) phosphate, resorcinol bis(2,4-ditertiary butyl phenyl) phosphate, hydroquinone (2,6-dimethyl phenyl) phosphate, and hydroquinone (2,4-ditertiary butyl phenyl) phosphate.

15 Claim 32. Flameproof thermoplastic resin composition according to claim 22 wherein the resin composition contains less than 3% by weight of polycarbonate based on the total weight of the composition.

20 Claim 33. A molding product prepared by the resin composition of claim 22.